1979

ANNUAL SUMMARY

COOPERATIVE FOREST PEST ACTION PROGRAM

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COVER PICTURE

Wood decay fungi play an important role in the ecosystem. They break down woody materials to their basic components. This decay fungus, Daedalia quercina, is commonly found decaying dead oak timber and exposed wood in service.

GENERAL COMMENTS

HIGHLIGHTS

A spray program was conducted in Jefferson County, West Virginia to control or eradicate the gypsy moth infestation that existed. A more detailed report is in this summary.

The first gypsy moth larvae was found June 5, 1979 in Jefferson County, West Virginia.

An early snowfall October 9, 1979 in central and eastern sections of West Virginia caused considerable damage to timber. The heavy wet snow fell before trees had lost their leaves and many trees were toppled or broken due to the heavy weight of the snow. Additionally, thousands of persons were without electricity due to trees falling over power lines and blocking roads. Generally, the trees affected the hardest were open grown, in cut-over areas and border line trees. Also, those with multiple tops or forked branches were affected.

Aerial surveys were conducted over the eastern section of West Virginia to detect defoliation from gypsy moth or other injurious insects. No areas of defoliation were noted.

Aerial surveys were conducted in eastern and southeastern West Virginia to detect the occurrence of oak wilt. All areas checked indicate the disease is not increasing and seems to be remaining stable or actually on a downward trend. Flights will be conducted in 1980 over the same areas to see if the disease is spreading or remaining the same.

The Pest Identification Laboratory logged in and answered 689 insect and disease problems in 1979. A total of 2,541 telephone calls requesting assistance or information were received during 1979.

Spring and summer defoliations were predicted to cause no damage to trees in West Virginia. Aerial flights and ground scouting confirmed these findings.

The eastern tent caterpillar was at an all time high in West Virginia during 1979. The prediction for 1980 is that the eastern tent caterpillar will be extremely abundant.

Walking stick infestations have subsided in the eastern panhandle where we experienced defoliation of 10,000 acres of oaks and locust in 1978.

PEST IDENTIFICATION LABORATORY

In order to give an idea of specimens submitted during 1979 (January - December) we offer the following:

Of the 689 specimens submitted, there were 226 dealing with fleas. Second place went to weed control; third to wasps and yellow jackets; fourth to cultivation and horticulture problems; fifth to roaches; sixth to vegetable problems; seventh to eastern tent caterpillar and eighth to moles. The telephone calls ranged from 190 on fleas to 72 on moles.

FOREST INSECTS

Fall cankerworm (Alsophila pometaria). As predicted in April 1979, the fall cankerworm did not cause any defoliation in the Dolly Sods, Mount Storm, or Blue Ridge Mountain areas during 1979. Survey techniques for this insect include tree banding with tanglefoot in November-December, and branch sampling in January-February. These methods of detection are used to monitor the population of the cankerworm. Aerial surveys were conducted over these areas during 1979 to detect any defoliation. The cankerworm populations are cyclic and we can expect the insect to be a problem in future years. Survey techniques will continue in 1980 to predict population build-up and delimit areas of infestation.

Walking stick (Diapheromera fermorata). This insect was responsible for the defoliation of 10,000 acres of oaks and locust in the eastern panhandle during August and September of 1978. However, in 1979 the insect did not cause widespread defoliation. Small pockets of infestation were noted and total acreage did not exceed 1,000 acres. The insect will be monitored in 1980 to see if populations are increasing or decreasing.

Fall webworm (Hyphantria cunea). This insect had been abundant several years ago but populations seem to have subsided and few nests were observed throughout the state. The insect is cyclic and will probably start increasing in the next few years.

Eastern tent caterpillar (Malocosoma americana). This insect has been increasing since 1977, at which time it was at an all time low. The insect is cyclic and populations will increase for several years and then natural diseases and parasites will cause the populations to collapse. According to the trend we have noticed since 1966, we can expect populations of this insect to collapse in 1981. However, we can only predict this based on past history. Many other factors may or may not take place and the insect could continue at high levels for

several years. We will monitor populations and make predictions by news releases at appropriate time. We expect populations to be very high in 1980.

During 1979 an effort was made to determine the presence of parasites that may occur in eastern tent caterpillar cocoons. A total of 196 cocoons were collected and placed in rearing cage. The cocoons were checked on a daily basis and all adults and parasites were collected and counted. The results or findings were: 55.1% of the cocoons contained adult moths; 4.6% of the cocoons contained larvae that didn't mature to pupal stage; 40.3% of the cocoons were parasitized by various diptera and hymenoptera insects. These figures alone indicate the populations may be on the downward trend. However, the number of egg masses observed in the late fall indicate the insect will be extremely heavy in 1980.

Oakleaf tier (Croesia albicomana). No egg mass surveys were conducted in 1979 because personnel were not able to conduct surveys. Aerial flights were conducted in late spring and light to moderate defoliation was noted over 100,000 acres. The past history of this insect indicates annual fluctuation of populations, i.e. populations were up this year (1979) and may be down next year (1980). In 1981 they may be up or down. The only way to really predict the populations of this insect is by maintaining egg mass surveys in early spring. In 1980 we hope to conduct egg counts and predict defoliation trends in the Pocahontas, Greenbrier County areas.

Southern pine beetle (Dendroctonus frontalis). Populations of this insect collapsed in West Virginia during 1975-76 and it is difficult to find any specimens in West Virginia. The insect normally thrives in dry summer conditions. The wet summer we experienced in 1979 would certainly hinder any chances of the insect to cause any problems in 1980.

Forest tent caterpillar (Malacosoma disstria). The only area in the state where caterpillars were found in abundance was in Jefferson County along the western edge of the Blue Ridge Mountains. The populations that existed were in the gypsy moth spray block area and populations were reduced with the application of Dimilin. Several trees at Guthrie, Kanawha County, were defoliated by the caterpillar.

Scarlet oak sawfly (Caliroa quercuscoccineae). The scarlet oak sawfly, which had been a problem in southern West Virginia the last few years, has subsided and no areas were found to have any visible damage. We do not expect this insect to be a problem for several years.

Locust leaf miner (Xenochalepus dorsalis). The leaf miner continues to cause heavy damage to black locust throughout the state with the exception of the Allegheny Mountain region. The extremely wet summer during 1979 seemed to help the trees overcome the insect problem and the trees appear healthy.

Virginia pine sawfly (Neodiprion pratti pratti). This sawfly once a problem to hard pines in southern West Virginia did not cause any damage during 1979. We will continue to monitor this insect to see if populations are on the increase.

The pine leaf chermid (Pineus pinifoliae). This insect continues to cause damage to white pine and red spruce in the higher elevations of West Virginia. The damage caused to red spruce is in the form of a small pineapple-shaped gall which occurs on the terminal branches. The damage, though unsightly, causes little or no damage to red spruce. However, the alternate host, white pine, does experience damage. The withdrawal of sap from branches by this insect causes the white pine to become sickly looking and have a yellowish color. Heavy infestation can cause the death of young white pine.

GYPSY MOTH

The gypsy moth continues to move south and west. In the northeast the gypsy moth defoliated 643,000 acres in 1979. In 1978 the insect defoliated 1.2 million acres in the northeast.

The gypsy moth population in Pennsylvania accounted for 8,500 acres defoliated this year compared to 450,000 acres defoliated in 1978. It is thought the wet cold spring, diseases of the caterpillar, parasites released through state and federal programs, and treatment of areas expecting heavy damage, have contributed to the decrease in areas being defoliated.

Even though the damage in Pennsylvania was down, the insect is on the rise in other states. The state of Michigan reported 100 acres defoliated by gypsy moth. This is the first time that noticeable damage has been recorded outside the northeast.

Populations are on the increase in Maryland and infestations have been found in West Virginia and Virginia.

Gypsy Moth Spray Program

In 1978 gypsy moth larvae had been found in Loudoun County Virginia close to the West Virginia line in Jefferson County.

After numerous meetings with APHIS and Virginia Department of Agriculture and Commerce in 1978, it was decided to spray approximately 5,200 acres for control of gypsy moth in Loudoun and Clarke Counties of Virginia and Jefferson County, West Virginia. Approximately 2,100 acres would be in West Virginia.

On May 11, 15, and May 29-30, 1979, approximately 5,200 acres of forest land were sprayed with Dimilin 25 WP to control gypsy moth. The chitin inhibitor Dimilin was applied at the rate of .015 lb. active ingredient in one gallon of water per acre on May 11 and 15, and applied at the same rate on May 29-30. This type of spray was approved by EPA and we stayed within the .031 lb. active ingredient per acre recommendation. (See Map 1).

The application of Dimilin proved to be very effective. We caught no male moths this year in the spray block areas and specimens of various caterpillars that were collected in the spray area were dead or dying.

Burlap Banding for Gypsy Moth

On June 5, 1979 the first gypsy moth larvae to be found in West Virginia was collected from under burlap bands placed on trees in Shannondale Development. Additional burlap bands were placed on trees but only one larva was collected. The larva found was adjacent to the spray block area, but yet some distance from the actual area.

Gypsy Moth Trapping Program

Approximately 4,200 pheromone traps were placed in West Virginia during 1979. The trapping program for 1979 in West Virginia was divided into three categories: 1) leading edge survey, 2) general detection, 3) special grid. (See Map 2).

The leading edge survey encompassed the eastern panhandle and 1,519 traps were placed on a 2 kilometer grid pattern using topographical maps. The general detection survey was a one trap per 3 square mile grid and 1,903 traps were placed. Additional 600 traps were placed in state parks, forests, public hunting and fishing areas, and counties along the Ohio River. A special grid survey was maintained in the Shannondale, West Virginia area south to Bluemont, Virginia. The traps in this area were placed on a 500 meter (1640 feet) grid and encompassed approximately 20,000 acres. There were 153 traps in West Virginia and 136 traps in Virginia.

The trapping results for 1979 are as follows:

1) Leading edge survey - 13 male moths in 9 traps - 9 male moths in 6 traps in Jefferson County, 2 male moths in one trap in Berkeley County, 1 male moth in Hampshire County, and one male moth in Mineral County.

2) General detection survey - no male moths recovered.

3) Special grid - there were 33 male moths recovered in 16 locations or actually 33 male moths in 25 traps, i.e. when traps caught male moths early in the season the traps were removed and replaced by new ones. The new traps also caught male moths.

No male moths were recovered in the areas where spray program had taken place. The concentration of moth recoveries centered around areas southwest and northwest of Shannondale Development.

Egg mass scouting was conducted in November in areas where male moths had been caught during the summer. No egg masses or other forms of the gypsy moth were found.

In order to give an idea of problems, etc. that take place during an actual spraying operation, I offer the following account:

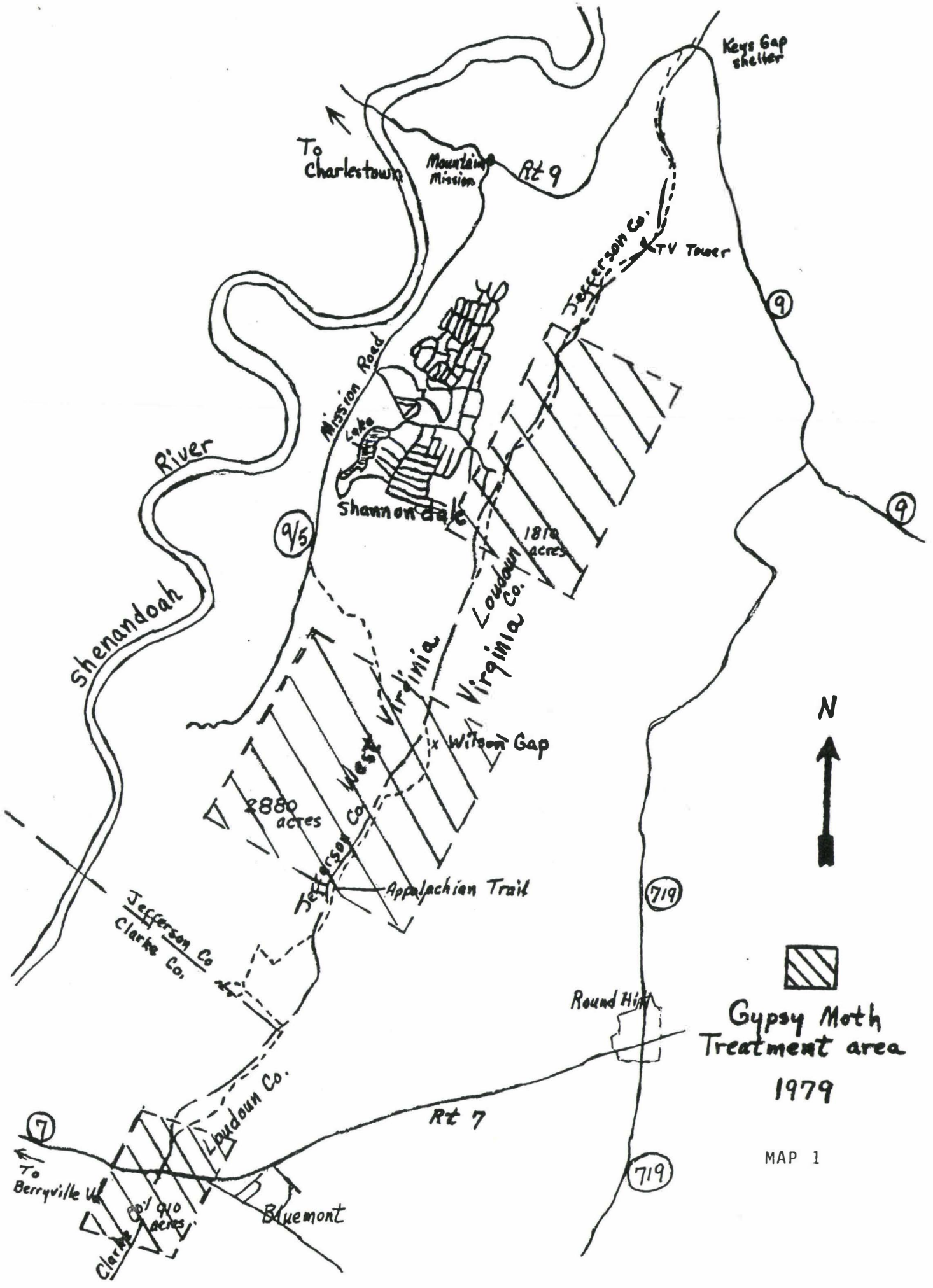
On May 7 all personnel traveled to the Towne House Motel at Charles Town to begin trial run on May 8, and actual spray on May 9-10.

On the night of May 7th a hive of honey bees was placed in the designated spray block area. These hives were placed in the area to see if the spray had any effect on brood and adult bees.

On May 8 all personnel traveled to their respective areas and a trial run was made. Weather conditions were perfect and outlook for the 9th and 10th was also very favorable.

On the evening of May 8th it was learned a temporary restraining order had been placed by a Citizens Committee against the State of Virginia, and all spray operations ceased. The restraining order was in effect until May 17, at which time it would be lifted if hearings justified it being lifted or set aside.

Meanwhile, the State of Virginia requested the Virginia State Supreme Court to set aside the restraining order. This would not take place until May 10. It was decided that West


Keys Gap shelter
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Jefferson Co.
TV Tower
9
Mission Road
Lake
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Virginia
West Virginia
Shenandoah
Wilson Gap
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Jefferson Co.
Appalachian Trail
719
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Round Hill
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Gypsy Moth Treatment area 1979
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To Berryville
Bluemont
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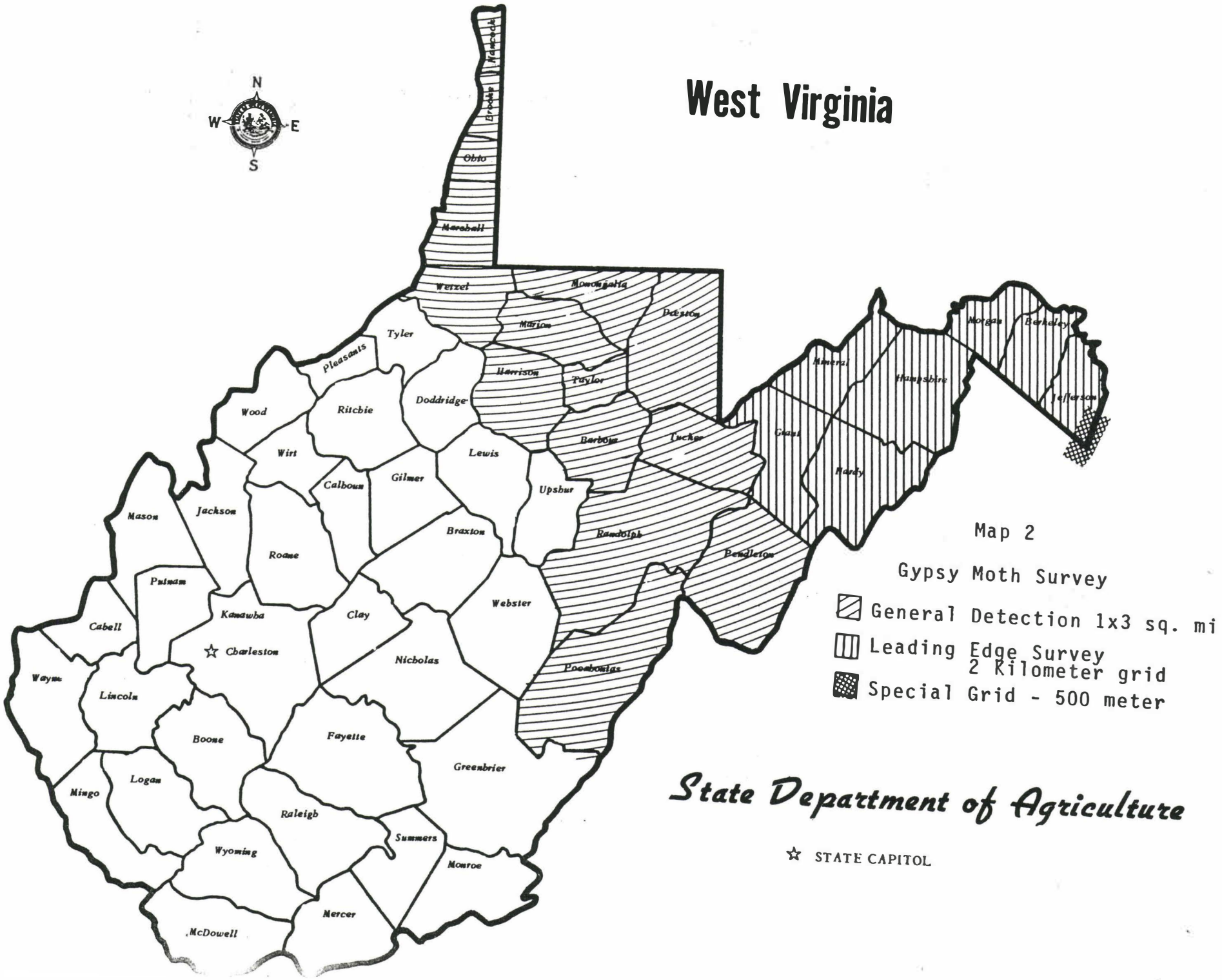
MAP 1


West Virginia
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Lewis
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Upshur
Mason
Jackson
Roane
Braxton
Randolph
Pendleton
Putnam
Webster
Kanawha
Clay
Cabell
Charleston
Nicholas
Pocahontas
Wayne
Lincoln
Boone
Fayette
Greenbrier
Logan
Mingo
Raleigh
Summers
Wyoming
Monroe
Mercer
McDowell
Grant
Hardy
Mineral
Hampshire
Morgan
Berkeley
Jefferson
Map 2
Gypsy Moth Survey
General Detection 1x3 sq. mi
Leading Edge Survey
2 Kilometer grid
Special Grid - 500 meter
State Department of Agriculture
STATE CAPITOL

Virginia personnel would return to Charleston and if restraining order was set aside on May 10, the State of Virginia would spray 900 acres in Clarke County and other parts of blocks in Loudoun County, Virginia. The West Virginia team would return on Sunday, May 13 and finish spraying the remainder of the areas.

On May 10th the Virginia State Supreme Court set aside the restraining order and the spraying operation took place in Virginia on May 11.

Plant Pest Control personnel returned May 13, but inclement weather prohibited spraying on May 14.

On the evening of May 14, members of the Plant Pest Control traveled to the areas where balloons were to be placed at Shannondale and the State Police were stopping all persons from entering the area. A bank robbery had taken place in Loudoun County, Virginia, and the robbers were at-large in the area to be sprayed. In fact, the get-away car was abandoned near the site where the marker for the aircraft was to be set.

The State Police advised us to stay out of the area until they thought the robbers had left the area. The State Police also thought the spray would hinder the use of dogs in tracking the robbers.

On the morning of May 15 at 5:30, all personnel traveled to the site to make ready for the spray operation. However, the State Police had not made a decision on our entering the spray block area. At approximately 7:00 A.M. the area was released and we could resume spray operations. Our troubles were not yet over. Even though it was a clear, perfect day for spraying, the spray aircraft at the airport was fogged in and could not get off the ground. At about 8:00 A.M. the weather cleared and the spray operation began. The day was clear and cool with no wind and we were able to finish treating the West Virginia side of the block and all of Block 1 by 12:30 P.M.

The second application of Dimilin to the area was to take place May 22-25. Spray operations started at 7:00 A.M. on Block 2. High winds and aircraft problems forced us to delay operations for the day. On the morning of May 23 it was raining and the forecast called for rain throughout the week. All operations were cancelled and we would return May 28 and finish the second spray.

Plans were made to let APHIS maintain the corners of the spray blocks in West Virginia and Plant Pest personnel would not have to return for the second application.

The second application of Dimilin was completed on May 29-30, by APHIS, State of Virginia, and EPA personnel.

After spraying operations were completed, the area were monitored to find residues in water, soil, duff, leaves, and litter. All samples were found to be negative.

SCALE INSECTS

The scale insects were one of the more common insects submitted to the Pest Identification Laboratory. Scale insects are commonly found on ornamentals, house plants, and forest trees. Injury to the host plant is caused by withdrawal of plant juices from the vascular system. When the scales are very abundant the plant may die from such infestations. Some of the scales submitted to the laboratory were: the cottony maple scale Pulvinaria innumerabilis found on maple in Kanawha County (more specimens of the scale submitted than any other); the oystershell scale Lepidosaphes ulmi found on silver maple in Wetzel County and lilac in Kanawha County; the gloomy scale Melanaspis temebricosa found on maple in Kanawha County; the euonymus scale Unaspis euonymi common on euonymus and found on pachysandra in Kanawha County; the white peach scale Pseudaulacaspis pentagonia found on cherry and privet in Kanawha County and peach in Jefferson County; the pine needle scale Chionaspis pinifoliae was found on single red pine in Marion County and causing moderate damage to Scotch pine in Wetzel County; the pine tortoise scale Toumeyella parvicornis found causing moderate damage to Virginia and Scotch pine in Hampshire County. Scale seemed to be common over scattered areas of pine. Magnolia scale Neolecanium cornuparvum found on magnolia in Kanawha County; a scale Lecanuim sp. found on maple in Kanawha County.

GALL INSECTS

Gall insects, even though unsightly, seldom cause death of host plants. However, many times the galls can become numerous enough to cause death of limbs and untimately the entire plant. The horned oak gall Callirhytis cornigera has been found causing extensive damage to entire city block of pin oaks in Kanawha City, Charleston, West Virginia. Currently plans are being made to study life history and untimately control methods will be tried.

The following is a partial list of galls submitted to the laboratory. The hack berry nipple gall Pachypsylla mamma on hack berry in Marion County; the wool sower gall Callirhytis seminator on white oak in Kanawha County; the maple bladder gall mite Vasates quadripedes common in Kanawha Valley and submitted

from Lewis and Braxton Counties; the maple spindle gall Vasates aceris-crumena common throughout Kanawha County and submitted from Doddridge and Greenbrier Counties; the spiny witch hazel gall aphid Hammamelistes spinosus found on birch in Kanawha County; the hickory leaf stem gall aphid Phylloxera caryaecaulis on hickory in Kanawha and Marshall Counties; vein pocket gall on pin oak, Berkeley County; the gouty oak gall Callirhytis punctata on red oak in Kanawha County; the oak apple gall common on oak in Kanawha Valley; the azalea gall common on azalea in Kanawha County.

SAWFLIES

Sawflies were not much of a problem this year in West Virginia. The ones submitted were: pine webbing sawfly found causing moderate damage to 2 acres of Scotch pine seedlings in Monroe County; the dogwood sawfly Macremphytus tarsatus caused complete defoliation to ornamental dogwoods in Jackson County; the redheaded pine sawfly Neodiprion leontei found on pine in plantation of 50 trees in Greenbrier County.

BORERS

With the increase of wood as a fuel and log home construction, we have received more wood borers this year than in the past. The borers found in firewood are secondary and usually will not cause damage to homes. The ones submitted were: old house borer Hylotrupes bajulus from Kanawha County; the apple tree borer Saperda candida from Monroe County; the tanbark borer Phymatodes testaceus from firewood in Kanawha County; the painted hickory borer Megacyllene caryae from firewood in Summers and Kanawha Counties; Neoclytus mucronatus from ash firewood in Kanawha County; the rhododendron borer Synanthedon rhododendri found causing damage to rhododendron in Kanawha County; the bronze birch borer Agrilus anxius caused death of birch tree in Wetzel County.

APHIDS

Aphids, like scale insects, cause injury to the host by withdrawing juices from the host plant. Generally, aphids were common throughout the state and seemed to be found on every kind of plant. The most common aphid was white pine aphid submitted from Harrison, Kanawha and Mason Counties.

BARK BEETLES AND WEEVILS

Very few bark beetles were submitted or observed this year. We think this is partially due to the extremely rainy summer we experienced. The white pine weevil Pissodes strobi was found to be causing heavy damage to Christmas tree plantations in Berkeley County. (Both Scotch and white pine affected); the pales weevil Hylobius pales found causing moderate damage to loblolly pine in Morgan County.

OTHER INSECTS

Many other insects were submitted that do not cause any significant damage to plants. However, there are those submitted that cause damage and are listed: the boxwood leaf miner from Kanawha County; the Holly leaf miner Phytomyza ilicis on holly throughout the Kanawha Valley.

A maple petiole borer causing defoliation to maple trees in Kanawha and Mason Counties.

Spider mites were abundant and seemed to be more severe on Norway spruce than other plants.

Carpenter bees were prevalent and many calls were received asking for control of these pests. Normally the carpenter bee will not attack treated wood but will seek out and bore holes into untreated lumber or wood fences. The favorite wood seems to be western pine or red wood used in home construction.

The pine spitle bug Aphrophora parallela seemed to be abundant this year throughout the state. The only recorded damage was from Barbour County where the insect caused moderate to heavy damage to 5 acres of Scotch pine Christmas tree plantation.

The cherry scallop shell moth Hydria prunivorata was found causing heavy damage to 20 acres of black cherry in Marion County.

The elm leaf beetle Pyrrhalta luteola was not as common this year as in past years, but several specimens were submitted. The larger elm leaf beetle Monocesta coryli was submitted from Lewis County found on Chinese chestnut.

The bagworm Thyridopteryx ephemeraeformis seems to be very common throughout the state. In several instances shrubs have been completely defoliated by this insect.

One of the more common problems this year was the reporting of huge wasps that flew back and forth across lawns. Some persons would not go outside the homes for fear of being stung by these insects. In all instances where we examined these reports, the insects were found to be parasitic wasps that live upon other insects. These insects are normally very docile and will not harm humans.

PATHOLOGY SECTION

HARDWOOD DISEASE PROBLEMS

Dutch Elm Disease (Ceratocystis ulmi)

Dutch elm disease incidence continued to be quite high during 1979. Numerous citizens contacted the Department Pest Identification Laboratory for information concerning disease control. In most instances only sanitation and insecticide sprays were recommended. It was suggested that trees with more than 10% crown involvement be removed. The pressure injection of fungistatic chemicals was only recommended when trees were of high value.

Armillariella Root Rot (Armillariella mellea)

Armillariella root rot is a common malady of shade trees. Home owners frequently damage the base of shade and fruit trees with lawn mowers, weed whips and other gardening equipment. The damaged area provides an excellent entrance court for such organisms as Armillariella mella. Within a few years this root rot organism converts a beautiful shade tree into an ugly stem with dead and dying limbs.

Fire Blight (Erwinia amylovora)

Numerous fire blight specimens were submitted to the Pest Identification Laboratory during 1979. There was an obvious increase in disease incidence over 1978.

Anthracnose of Hardwoods (Gnomonia sp., Guignardia sp., et al)

Sycamore anthracnose Gnomonia platani was widespread but not nearly as severe as it had been in 1978. Moderate defoliation and shoot dieback was noted. A great deal of genetic diversity in disease susceptability must occur in the native sycamore population. In many sycamore stands along river banks a few trees would suffer extensive defoliation while others would appear unaffected.

Actinopelte Leaf Spot (Actinopelte dryina)

This disease was noted on several red oak in Kanawha County. Although the disease was quite conspicuous, no problems from premature defoliation are anticipated because defoliation did not begin until late in the summer.

Nectria Canker (Nectria galligena)

This canker disease is most commonly observed on birch, walnut and sassafras. In one (1) six acre walnut plantation, virtually every tree suffered from extensive basel cankering. The entire stand of 10 year old trees was rendered useless for timber production.

Slime Flux

Slime flux is a commonly observed problem of shade trees in West Virginia. The problem appears to be most prevalent on elms but has been observed on oaks, maples and other species. Pruning wounds are likely targets for invasion by the slime flux organism.

Pin Oak Blight (Endothia gyrosa)

A survey was conducted in the Kanawha Valley area to determine the extent of pin oak blight. The causal organism was found at three different locations on pin oaks and at one location on American beech. At no location was the disease severe. It was mainly found causing small branch cankers or small cankers on exposed roots. The sites where this disease organism was observed will be monitored to determine if this disease is of any consequence in West Virginia.

Cedar-Apple Rust (Gymnosporangium juniperi-virginianae)

Cedar apple rust incidence was quite high during the spring of 1979. Numerous home orchardists submitted specimens to the Pest Identification Laboratory. The extremely moist spring encountered during 1979 was conducive to inoculum production and infection.

CONIFER DISEASE PROBLEMS

Cytospora Canker (Cytospora kunzei)

This disease has been observed on Norway spruce trees throughout the state. Some trees have suffered extensive diebacks as a result of infection. Fortunately, only a few trees at any one location are involved.

Atropellis Canker (Atropellis tingens)

Atropellis canker continues to be a problem in two (2) six-acre Scotch pine Christmas tree plantations in Raleigh and Mercer Counties, and one (1) two-acre Austrian pine plantation in Berkeley County. Numerous cankers were observed on small branches throughout the tree. No main stem cankers were noted.

Hemlock Canker

A dieback problem known as hemlock canker was reported in ornamental plantings. Dying plants were found on moist poorly-drained soils. Each plant exhibited resinosus at the canker area. Affected trees exhibited off-color foliage and dead and dying branches.

Diplodia Tip Blight (Diplodia pini)

Diplodia tip blight was noted on red and Austrian pines planted as ornamentals throughout the state. Extensive damage was noted on individual trees.

Lophodermium Needle Cast (Lophodermium pinastri)

Several Scotch pine Christmas tree growers reported that they were encountering problems with Lophodermium needle cast. These growers had failed to take proper care of their trees by not mowing or applying fungicides.

Disease incidence may be extremely high during 1980 due to the moist fall weather experienced during 1979.

Needle Cast (Sphaeropsis sp.)

A needle cast problem of Scotch pine caused by Sphaeropsis sp. was observed in a Christmas tree plantation in Barbour County. Several of the affected trees suffered moderate damage.

Phellinus pini (Formerly Fomes pini)

This decay organism was found causing extensive decay to white pine in natural white pine stand in Hardy County. Conks were found protruding from branch stubs and wounds. Several of the fallen trees exhibited extensive decay.

Annosum Root Rot (Fomatopsis annosus, formerly Fomes annosus)

Annosum root rot was found in a red pine plantation in Preston County. Only two or three trees died during the 1979 season. Fruiting bodies (conks) were found at the base of each of these trees. The stand will be monitored to determine if disease incidence is increasing.

Pinewood Nematode (Bursaphelenchus lignicolus)

The pinewood nematode, which causes a serious pine wilt disease, has not been found in West Virginia. However, it has been found in the states adjacent to West Virginia. Surveys will be continued during 1980 to attempt to determine if this pest occurs in West Virginia.

Sebacina helvelloides

This fungus was just recently found and reported in West Virginia. It appeared as a copius felty growth, tan in color, incrusting the base of a variety of trees, white pines and hardwoods, in a Mercer County woodlot. Although not normally considered a pathogen, S. helvelloides might kill seedlings and small trees. We suspect that this fungus has been overlooked in the past and actually occurs throughout the state.

Pine Pruning Fungus (Cenangium sp.)

In the late winter of 1979 a severe white pine dieback problem was reported in Raleigh and Mercer Counties. Hundreds of acres of white pine seedlings and saplings growing under a hardwood overstory displayed the dieback symptoms. The disease was limited to suppressed white pine reproduction.

Cankered areas were found on the branches and main stems of the saplings and seedlings. The cankers were reddish brown in color with black erumpment stroma. Cankers appeared to start at the branch tip and progress to the main stem. The foliage on diseased branches turns a tan color and droops. Later, during the summer, appothecia developed in the canker area.

ABIOTIC FACTORS

Snow Damage

October 9, 1979 an early snowfall hit the higher elevations of West Virginia. Most of the trees were still in full leaf. Many trees were toppled or broken due to the weight of the snow. Additionally, thousands of persons were without electricity due to the broken power lines caused by falling trees. Trees with forked branches and multiple tops were the most severely affected. The heaviest damage occurred in Randolph, Tucker and Webster Counties.

Air Pollution

White pine in the southern and eastern half of West Virginia exhibited symptoms of oxidant damage. The foliage of affected trees developed chlorotic mottle and tip burn symptoms. Apparently there is a great deal of genetic diversity in the white pine

populations response to oxidants. Some white pine trees appeared quite sensitive while others were virtually unaffected.

Herbicide Damage

Each year we receive numerous complaints concerning the misapplication of herbicides. Landowners contact the department with complaints concerning right-of-way spraying, vandalism, etc. Many of the problems we encounter are caused by a landowner's failure to read and understand the label.

In recent times we have received an increasing number of calls concerning the use of herbicides in acts of vandalism. Often these acts of vandalism center around neighborhood disputes.

PROJECTS

Oak Wilt Detection and Control

Due to funding the oak wilt control project was not conducted. However, some monies were available for aerial surveys. Aerial surveys were conducted in high disease incidence counties in the eastern panhandle. There was an apparent decline in disease incidence over the 1977 season, as fewer diseased trees were spotted.

Foresters, landowners and others frequently submit specimens to the forest pathologist for confirmation. During 1979 a large pin oak was found dying from oak wilt in the Charleston city limits. The Charleston Beautificaion Council had contacted the department to diagnose the problem.

Chestnut Blight Project (Endothia parasitica)

Chestnut blight research continues along two lines in West Virginia. First, there are efforts by WVDA personnel to breed American chestnut for blight resistance. Surviving American chestnut displaying resistance have been located within the state. Scion wood has been collected from these trees so that all the genetic material from resistant trees around the state may be maintained at one location. To date we have only met with limited success in our grafting program. The problem is due to incompatibility between scion and rootstock.

The WVDA forest pathologist has been cooperating with researchers from West Virginia University on their study concerning the spread of hypovirulent strains of E. parasitica in West Virginia. Spread plots have been established in Tucker, Pocahontas and Pendleton Counties. Our efforts now are to look for the natural spread of hypovirulent isolates within the plots.

White Pine Root Decline Project (Verticicladiella procera)

A cooperative white pine root decline project was established with plant pathologists at West Virginia University. We maintain a survey of the state to locate diseased white pine plantings. An effort will be made to determine if this disease occurs in natural white pine stands in West Virginia.

A graduate student at WVU recently developed an agar media which can be used to isolate the causal organism from soil. This breakthrough should aid us greatly in our studies of this disease.

White Pine Blister Rust (Cronartium ribicola)

For the year 1979, 7841 Ribes plants were destroyed on 4,275 acres of land. In addition to direct control activities, 23,296 acres were surveyed in detection, pre-suppression and post control surveys.

A total of 12,530 acres of the control area was placed in a "no further work" category due to Ribes and pine conditions. This brings the total acreage of state and private land in West Virginia that will need no further work to 350,963 acres of a total of 414,813.

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WEST VIRGINIA ENTOMOLOGISTS ORGANIZE

Professional and amateur entomologists in West Virginia met on January 11 at North Bend State Park to formally organize the West Virginia Entomological Society. The meeting, attended by 24 persons, was the result of several years of informal effort by entomologists at West Virginia University, Marshall University and the West Virginia Department of Agriculture.

Officers elected were Dr. Linda Butler, WVU, President; Mr. Albert E. Cole, WVDA, President-elect; and Dr. Roger Sheppard, Concord College, Secretary-Treasurer. Annual dues were set at $3.00/year for individuals and $4.00/year for a family membership. Plans are to hold one early spring meeting (possibly in conjunction with the West Virginia Academy of Science) and one summer field meeting each year, and to publish a quarterly newsletter. This year's summer meeting will be held at Twin Falls State Park on July 25 and 26.

The current membership total is somewhere around 66. If you are interested in joining the Society, write to Dr. Roger Sheppard, Biology Department, Concord College, Athens, West Virginia 24712. -- Charles C. Coffman